

NAVAL WAR COLLEGE
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EXPLOITING THE PSYCHOLOGICAL
EFFECTS OF AIRPOWER; A GUIDE FOR THE OPERATIONAL COMMANDER

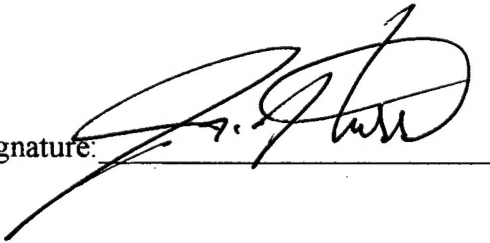
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A paper submitted to the faculty of the naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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ABSTRACT

This paper offers a historical assessment of the psychological effects of air operations and offers recommendations for future commanders and air operations planners on how to exploit airpower's psychological effects at the operational level of war. A discussion of six combat stressors endemic to the battlefield establishes the vulnerability of deployed forces to psychological factors. An analysis of air operations in the Korean War, the Vietnam War, and Desert Storm establishes that attention to targeting, timing, and integration with PSYOP can enhance airpower's ability to exploit those forces' psychological vulnerabilities. Possible techniques for assessing the psychological success of air operations are offered as well. The report concludes with recommendations on how best to include exploitation of airpower's psychological effects into a robust air operations plan.

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Background

Air power is, above all, a psychological weapon—and only the short-sighted soldiers, too battle-minded, underrate the importance of psychological factors in war.

-Liddell-Hart

The primary role of airpower in our nation's defense has been hotly debated since the aircraft was first introduced into the combat environment. The ability to exploit the third dimension of the battlespace is what gives combat aircraft their uniqueness and is the source of airpower's strength. It is the airman's responsibility to exploit this third dimension both to protect our own forces from attack and to reduce the combat capability of the enemy forces. A force vulnerable to attack from the air is a force with an exposed flank. Airpower's primary mission, at the operational level of war, is to expose that "third flank" and exploit it by all effective means to reduce or destroy the enemy forces' ability to wage war.

When attempting to reduce or destroy a force's ability to wage war, two distinct aspects are possible – the physical and the psychological. The physical aspect deals with the denial, damage, or destruction of the tangible items the enemy needs to wage war. His weapons, equipment, vehicles, roads etc. are all viable physical targets and the desired effect is to render those items useless to the enemy forces that rely on them to wage war. The psychological aspect deals with the denial, damage or destruction of the intangible items the enemy needs to wage war. Here, the "hearts and minds" of the enemy's fighting forces are targeted and the desired effect is to render those forces unable or unwilling to use those weapons, equipment, vehicles, roads etc that they need to operate in order to wage war. Degradation or destruction of the enemy forces' will to use the tangible war making assets has the same effect on his combat capability as actually degrading or destroying those

tangible assets. Attacking enemy critical vulnerabilities for both physical and psychological effect can produce a synergistic result on the enemy forces' capacity to wage war.

Thesis

Airpower has demonstrated its capability against the physical assets of our nation's enemies throughout history. However, airpower's capability against the psychological assets of our nation's enemies is often misunderstood and under utilized. An understanding of airpower's inherent strengths in the psychological dimension can return great dividends at the operational level of war. This understanding properly applied, by the operational commander and both air and ground force campaign planners, can significantly improve the efficiency of our operations and the probability of their success.

Stress and Fear on the Battlefield

Loss of hope, rather than loss of life, is the factor that really decides wars, battles, and even the smallest combats. The all-time experience of warfare shows that when men reach the point where they see, or feel, that further effort and sacrifice can do no more than delay the end, they commonly lose the will to spin it out and bow to the inevitable

-Liddell-Hart

Stress and fear are inherent to the battlefield and their effect on the fighting forces is significant. During studies conducted on combatants in The Second World War, 68 percent of the men involved "admitted that not only had they experienced fear and anxiety at some time in combat, but also that they had experienced it at a level that prevented them from completing their duties".¹ This high of a percentage of combatants that actually admitted to at least brief mission capability impairment in battle, gives credence to the belief that no

fighting man is immune from the stress of combat and that every man has a breaking point.

Of particular note is a quote from the *Marine Corps Gazette* on the subject:

There is no such person as the soldier who is dauntless under all conditions of combat. There is no such unit as the company that stays good or the company that is shockproof ... every Marine has a breaking point if the stresses are strong enough and of long enough duration.²

This fear, stress and anxiety felt by those engaged in combat derive from many stressors that are present on the battlefield. A.P.N. Lambert lists 14 of these stressors in his book *The Psychology of Airpower*. I will discuss 6 of these that I feel are particularly important to a study of airpower and its effects at the operational level of war.

Claustrophobia – The loss of personal movement amplifies the effects of the other stressors. The loss of movement on the battlefield denies the soldier his instinctive reaction to stress, increased physical activity. Accounts of soldiers' battlefield experiences also connect this personal immobility with a loss of the sense of time.³

Noise – Exposure to irregular and high levels of noise can preclude the ability to think clearly.

Isolation – Forces vulnerable to attack will naturally disperse, and the soldier may find himself rather alone in a time of great danger. Without the reinforcement of his comrades enduring a similar experience, his mind is free to imagine all sorts of possibilities.

Fatigue – Lack of sleep and a shortage of basic personal needs (food, water, and hygiene) all contribute to fatigue. The importance of providing for the basic human necessities cannot be overstated. In one telling example, a German Captain confronted with a case of insubordination (refusal to man assigned positions) within one of his platoons during the battle of Stalingrad, allowed the offenders to eat and sleep at his quarters that

night. In the morning, he had no trouble in convincing them to return to their posts and continue fighting.⁴

Helplessness – The feeling of not being able to fight back is a major combat stressor. This often stems from a belief that the enemy's weapons are superior and one has no defense. This leads to feelings of impotence and lack of control. These feelings often lead to panic.

Ignorance – The lack of knowledge provides a fertile breeding ground for all sorts of counterproductive activities. Troops unaware or unsure of either enemy or friendly positions, movements or intentions are ripe for the festering of fear, rumors, and erroneous beliefs.

Airpower is well suited to deliver these stressors to the other side of the battlefield and focus them on the enemy's deployed forces. Combined, the stressors can lead to the feeling of hopelessness that, as Liddell Hart reminds us in the opening quote, is catastrophic to a fighting force. Well planned and executed air operations can successfully increase the levels of fatigue, helplessness, noise, claustrophobia, isolation and ignorance to a point where enemy forces are mentally unable or just plain unwilling to perform their duties effectively.

Planning to Exploit the Stressors

The process of linking ends and means is a crucial yet too often overlooked requirement for the aerospace strategist. The ultimate results are often psychological in nature; war is after all a human endeavor... understanding the links between cause and either physical or psychological effect is a key part of aerospace planning

-AFDD 2-1 (Draft)

The planning stage of an operation is where an understanding of how these stressors affect the enemy's forces and how best to use airpower to increase the stressors should be integrated with the operational plan to enhance the psychological decay and defeat of the

enemy. There are three major aspects of planning that I will discuss, targeting, timing, and integration of the air operation with a robust Psychological Operations (PSYOPS) plan.

Targeting

One of the greatest controversies surrounding the use of airpower has always been what to hit, when, and how. In a nutshell, that is targeting. All too often the planner focuses entirely on the destruction of equipment and not on the degradation of capability. Capability is after all the combination of the tangible assets required to make war and the knowledge, will and courage of the fighting forces to operate those tangible assets. Destruction is useful, but it is not the only way to degrade capability. If the planner focuses only on destruction, he limits the effects of his plan to the physical assets of the enemy. If, on the other hand, the planner focuses his efforts on the enemy's true warfighting capacity, he leaves himself open to exploit both the physical and psychological aspects of the battlefield and may be able to reach the same operationally relevant result with much more economy of force. This is what is known as targeting for effects as opposed to targeting for destruction.⁵ I recommend three types of targets for their potential psychological effects; air defenses, troops, and logistics. The targets themselves offer nothing new or revolutionary, as they would normally be found on any air planner's target list. What is different about my recommendations is the intended effect of attacking these targets.

Air Defense

He who controls the airspace above the battlefield can use that space to maneuver and attack from where he wants and when he wants. Rommel understood this advantage well, remarking that "anyone who has to fight, even with the most modern weapons, against an enemy in complete control of the air fights like a savage against modern European troops,

under the same handicap, and with the same chance of success.”⁶ This freedom of maneuver, the ability to strike anywhere and everywhere, gives airpower the illusion of omnipotence. This perception of enemy omnipotence increases a soldier’s feeling of isolation and helplessness because he has nowhere to turn for help. It restricts his movement and increases his fatigue because there is no place or time of day that he is not under the constant threat of attack. He is left to wonder, in his ignorance, why there is no defense. We must make the enemy believe that he is defenseless against our airpower. In his study of U.S. air operations from the Korean War to Desert Storm, Stephen Hosmer found compelling evidence that when aircraft were able to attack with virtual impunity, enemy forces were significantly demoralized.⁷ Regardless of the amount of physical damage they sustain during these attacks, if the enemy perceives that we are paying little or no price for our air action, he will assume that there would be little or no reason for us to stop or reduce the intensity of that action. This sense of futility and of not seeing any end in sight greatly increases the enemy’s perception of impotence and helplessness.⁸ The frustration of watching seemingly omnipotent coalition aircraft go unchallenged in the skies over the Kuwaiti Theater of Operations (KTO) was captured in an Iraqi soldier’s diary. After experiencing 21 days of coalition air operations, he wrote;

*The enemy planes patrol the skies bombing as if in their own skies. There is no worthy resistance except from here and there. We don’t know the secret behind that. Are they saving their resistance until the expected ground attack starts? We don’t know!!*⁹

Air superiority must continue to be the primary objective of future air operations plans. Not just for their obvious force protection benefits, but also for their exploitable psychological effects on enemy forces, Offensive Counter Air (OCA) and Suppression of Enemy Air

Defense (SEAD) missions must have leading roles in a well choreographed operational dance.

Troops

The enemy's deployed forces are also a target that should be attacked for both physical and psychological benefit. The physical benefits in destroying the enemy's equipment, and killing their troops are obvious. However the psychological benefits are subtler and differ depending on the types of weapons used. Here the distinction lies between the use of Precision Guided Munitions (PGM) and conventional unguided munitions. The obvious benefit of using PGMs from the physical effect aspect is that it increases the probability of killing or damaging the target and decreases the probability of collateral damage. The psychological effects of PGMs are different between non-combatants and combatants. Because of the reduced probability of collateral damage, non-combatants are much less afraid of a PGM strike than one carried out by unguided munitions. This was evidenced perfectly during the Dec 1998 Desert Fox strikes against Iraq. The average citizen in Baghdad paid little attention to the action and went about his normal routine. Their confidence that the U.S. strikes would be confined to military targets lead to a very low estimate of personal danger. Combatants on the other hand, react differently because they are the people with the duty to man and operate those targets. If they have a similar confidence in U.S. PGM capability and accuracy, and they believe their weapons, equipment, building, installation or area to be a target, they may take measures to put some "survivability distance" between themselves and that target. This action has very little exploitation value in the type of static, surgical-strike police action strategy we have employed against Iraq for the last 8 years, but it is extremely exploitable if ground action is scheduled against those targets.

During Desert Storm, a tactic known as “tank plinking” was developed to increase the reliability of airstrike BDA. The basic idea was to use PGMs against Iraqi armor in the KTO at night. The F-111 and F-15E aircraft could easily detect these targets with their Forward Looking Infrared Radar (FLIR) and the GBU-12 proved itself a capable tank killer with a direct hit.¹⁰ While the physical effects of 19 nights of tank plinking were significant to the subsequent ground offensive, they were miniscule compared to the psychological effect those sorties had on the armored forces in the KTO. The effect of random tanks blowing up sporadically through the night drove the crews of those tanks to seek shelter a safe distance away from their weapons. The amount of equipment the fleeing Iraqi’s left behind was staggering, but the truly amazing fact is just how much of that equipment had been abandoned well before it was ever directly threatened by Coalition fire. A Joint Intelligence Survey Team conducting a postwar physical inspection of Iraqi armored vehicles remaining on the battlefield found that only slightly more than half of the tanks inspected had been hit by coalition fire. More significantly, in the team’s estimation, only a few of those tanks actually hit by fire were occupied by the crews at the time they were hit.¹¹ A captured Iraqi General summed up the common feeling of helplessness among Iraqi tank crews by saying “during the Iran War, my tank was my friend because I could sleep in it and know I was safe...none of my troops (in Desert Storm) would get near a tank at night because they kept blowing up.”¹² By the time the ground offensive started, it is apparent that airpower had convinced the crews that the best tactic for survival was to separate themselves from their weapons.

PGMs are not a requirement to get a psychological bang for your buck when targeting troops. Unguided munitions bring utility to the effort as well. Along with Tank plinking, the

Iraqi troops in the KTO were targeted with unguided munitions dropped from B-52s continuously throughout the air operations. General Schwarzkopf intended to "destroy the enemy morale by physically annihilating one of the Republican Guard divisions" with the B-52s.¹³ His aim included exploiting the psychological dividends of airpower, but primarily through destruction. In actuality, the physical damage to the fighting equipment of these divisions was light, but the strikes still had extreme psychological effect and operational payback. The noise, intensity and duration of the B-52 strikes made them the most feared type of attack for a significant number of Iraqi soldiers. B-52 strikes have provided significant emotional events in the lives of survivors since their first combat use in Vietnam. A Vietcong Minister of Justice described his receiving-end experience as like "being caught in the Apocalypse", and explained that "one lost control of bodily functions as the mind screamed incomprehensible orders to get out."¹⁴ The strikes create a claustrophobic effect. The mind wants to run, but the incredible noise and shock from a stick of 72 Mk-82s pin the body down. While originally conceived as a destruction mission, the decision to continue KTO B-52 attacks at night was made for psychological reasons. The intent was to keep the target units awake and add fatigue to their cumulative list of stressors. To this end, the B-52 proved a very effective weapon. One senior officer complained that he could hardly sleep more than two hours at a time and that the constant pounding shattered his men's nerves to a point that they nearly went mad.¹⁵ Surprisingly, this effect was due more to the experience of living through an attack, not the probability of being killed during one. That same Iraqi officer admitted that the B-52 raids actually produced relatively light casualties in his unit.¹⁶ An amazing point gained from POW interviews after the war was that the intensity of the B-52 strikes actually had a psychological effect on the forces that were never actually attacked

by the B-52. The strikes could be felt and heard by units as far away as 40 kilometers. The B-52 was so universally feared that in one instance a troop commander identified it as the sole reason he surrendered his troops to advancing coalition forces. Reminded by an interrogator that his position was never attacked by B-52s, he stated "That is true, but I had seen one that *had* been attacked."¹⁷

Logistics

In the earlier discussion of the different combat stressors, I mentioned the importance of adequate food and water to prevent fatigue. Hosmer's analysis of the Korean and Gulf wars points out the correlation between effective supply interdiction air operations and periods of high surrender rates during combat. Over 65 percent of Chinese soldiers surrendering during the UN spring offensive in 1951 told their interrogators that rations were inadequate and some reported that their units were so short of food that troops were forced to eat grass and roots.¹⁸ Iraqi infantry units in southern Kuwait were so drastically short of food and fresh water that some Iraqi officers believed that had the ground offensive been delayed another two weeks, the Iraqi high command may have had to withdraw its front line units to avoid logistical strangulation.¹⁹ The situation in Korea was due mainly to classic interdiction operations against bridges, rail lines and supply depots, while the Iraqi's were more effected by the loss of front line unit's rolling stock and the drivers willing to risk movement to and from the depots.²⁰ The common connecting ties are that both were products of airpower and both decreased the enemy forces' ability and will to wage war.

Timing

The timing of air operations is equally important to targeting. The question of when to strike is as critical as to what to strike. In order to exploit the psychological effects of

airpower, the operational commander must plan for air operations that are sustained and closely integrated with ground operations.

Sustained Operations

One of the most enlightening results of Hosmer's analysis of air operations in Korea, Vietnam, and Desert Storm is the difference in the psychological success of the operations compared to their duration and intensity. In both periods of the Korean War and Desert Storm when large numbers of enemy combatants surrendered, the troops had been subjected to sustained air attacks over a significant period of time. During both the 1950 and 1951 routs, the Chinese forces had been on the offensive for several months and had been constantly under attack by UN air forces. The Iraqi's in the KTO had been continuously under attack (or the threat of imminent attack) for 38 straight days without respite. By contrast, the communist forces in Vietnam while often attacked violently were never brought under sustained air attack. Communist forces would engage in brief battles and then withdraw to rear areas where they were able to rest and reconstitute.²¹ Round the clock operations will be necessary to deprive the enemy troops of sleep. Along with food and water, adequate sleep is an integral part of preempting fatigue. If people are totally deprived of sleep for 24 hours, their efficiency is reduced, for 48 hours their efficiency is severely restricted, and after 72 hours it is non-existent.²² Any break in the air operations could be extremely counterproductive to exploiting any previously gained psychological benefits because a soldier's reconstitution time can be rather short. In the instance cited earlier, the German soldiers at Stalingrad were able to return to their posts after one night's decent rest and one meal. In a separate example from the battle for Monte Cassino during WWII, German officers were able to send soldiers back (without coercion) to the very posts they had

run away from after approximately two hours worth of rest and food in a rear area secure from air and artillery attack.²³

The Importance of Coordinated Ground Operations

Airpower is very capable of delivering and increasing the psychological stressors that reduce a force's combat capability, but it is not very good at cashing in on the rewards. This strikes at the heart of airpower's responsibility to prepare the operational battlefield. A reduction of enemy ground force combat capability does not necessarily mean a blue-force victory. Enemy forces convinced that resistance is futile may continue to man their posts until confronted by our ground forces on the offensive. In both the Korean instances cited above and during Desert Storm, the enemy was presented with UN or coalition forces on the attack. The presence of our units, maneuvering on the battlefield, provides the enemy troops with two things. First, it forces them to make (sometimes very quickly) a decision whether to continue the fight or surrender, and second it gives them someone to surrender to. In marked contrast to the two periods of the Korean War and Desert Storm, where enemy forces surrendered in abundance, was the November 1951 to July 1953 period of the Korean War. This period, marked by the adoption of an "active defense" policy by the UN forces, produced some of the highest close support sortie rates and some of the fiercest fighting of the entire war but a miniscule amount of enemy surrenders. One of the major factors in this difference in the psychological health of the enemy soldiers and the resultant lack of surrenders was the lack of offensive pressure by UN ground forces. Communist forces suffered an enormous amount of casualties during the last 15 months of the war. But, because of UN's decision to adopt the defensive strategy, they were able to control the initiative and could more easily reconstitute their forces' morale between battles.²⁴

Integration with PSYOP

While a discussion of effective PSYOP operations is a completely different topic, it is necessary to mention that an active and integrated PSYOP plan is essential to fully exploiting the psychological effects of airpower. Besides the major effort of trying to convince the enemy that resistance is futile and explaining how to surrender and who to surrender to, an effective PSYOP plan can exploit enemy perceptions created by air operations, and an effective air operations plan can enhance PSYOP message credibility. The best examples of that cooperation come from Desert Storm. The coalition had an intense PSYOP effort to convince the Iraqi forces to abandon their equipment during the ground phase of the operation. Leaflets and messages explained that the soldiers would not be attacked if they disassociated from their vehicles and weapons. Iraqi's believed this message because of the conditioning they had received during the 38 days of airstrikes.²⁵ In effect, the PSYOP message took something the Iraqi's had already learned from Coalition air assets and successfully associated it with Coalition ground forces. In another effort, PSYOP messages were used to give notice to Iraqi troops in the KTO that certain divisions would be attacked with B-52s on certain days. The fact that those specific divisions were attacked as advertised not only added to the Iraqi's perception that our airpower was omnipotent, but actually established our PSYOP messages as a credible source of information.²⁶ This in turn enhanced the effectiveness of other, unrelated, PSYOP efforts.

Assessing the Psychological Success of Your Air Operations

In war, the moral is to the material as three is to one
-Napoleon

Battle Damage Assessment (BDA) of the physical effects of airpower is difficult enough, but there is no tougher task than assessing your enemy's will to fight before he is actually forced into the fight. The psychological effects of airpower cannot be assessed by satellite or FLIR imagery. Perhaps the problem of evaluating how much our efforts have damaged the enemy's intangible fighting assets is the reason those intangible assets are so often ignored to begin with. The best window we have to the enemy fighting man's psyche is interrogation of those that surrender or are captured. Unfortunately, air operations planners do not, historically, involve themselves in Enemy Prisoner of War (EPW) interrogations. If the operational commander is serious about exploiting the psychological effects of his airpower, this is a paradigm he must shift. Essential elements of Information (EEIs) pertinent to the effects the air operations are having on enemy forces are not necessarily known by U.S. Army EPW interrogators. As a minimum, air operations specialists should request specific information from EPW interrogations dealing with enemy force morale, adequacy of sleep, food and water, ease/fear of movement, frequency of contact with superiors and enemy perceptions of the air operations to date. Ideally, air operations specialists could audit actual interrogations to personally assess the level of the six combat stressors the enemy is experiencing and how the air operations are best contributing to the exploitation of those stressors. Human Intelligence (HUMINT) and Signals Intelligence (SIGINT) are also valuable tools for establishing a psychological profile of the enemy's troops. Air planners should be ready to exploit unexpected windfall opportunities to assess the psychological impact of their operations as well. An example of this was the unexpected mass surrender of over 400 Iraqi Infantrymen at Thaqb al Hajj four days before the ground offensive started. Stumbled upon by 101st Airborne helicopters during a

reconnaissance of the intended invasion route and attacked by Apaches and A-10s for 4 hours, an entire enemy battalion was more than happy to surrender to one U.S. company and a three-man PSYOP team²⁷. Although not completely appreciated at the time, this event provided a great deal of foreshadowing for the operations to come.

Possible Views of Others

When we speak of destroying the enemy's forces we must emphasize that nothing obliges us to limit this idea to physical forces: the moral element must also be considered
-Clausewitz

Possibly the most prolific argument against expending effort on the intangible assets of the enemy is that it is ineffectual on "real" troops. Critics will tend to write off the Desert Storm experience as an anomaly, a "gift" from a cooperative enemy. Admittedly, it is quite possible that we may never again see the degree of wholesale collapse we witnessed during Desert Storm. While combat stressors will continue to saturate the battlefields of the future, the enemy forces' ability to handle those stressors and our ability to exploit them will vary depending on the quality and experience of those forces. However, it is important to stress that collapse of the enemy fighting force is not required to make our efforts worth while. Any degradation in the enemy force's capacity to wage war increases the probability for the success of our ground operations.

Another common counter argument is that without a way to effectively measure the intangible capacities of an enemy, there is no effective way to measure the success of any effort to damage his morale and will. Without a measurement of success, any effort in the psychological realm can appear as wasted effort. The flaw to this argument is that to a large degree, the psychological effects are free. For example, tank plinking was a mission

designed for physical effects. The added psychological dividends came at no additional cost. Had the potential intangible benefits been identified earlier in the planning phase, those missions could have started earlier in the operation and been better coordinated with a complimentary PSYOP campaign.

Conclusion and Recommendations

The psychological effects of airpower can have a significant role in achieving the overall campaign objectives
-AFDD 2-1.3 (Draft)

Operational commanders and their planning staffs need to have an appreciation for airpower's capability against both the tangible and intangible assets of the enemy. The aim of the commander's operational plans should be to maximize the *effects* of the air assets under his control across both spectrums. We lack a quantitative method to account for the psychological effects of air operations, however that should not dissuade the commander from making the demoralization of the enemy forces a stated objective of his air operations plan. Specifically, I recommend future air operations be designed to convince the enemy forces of four truths;

1. Their defenses are useless.

Air superiority over the battlefield must be established early and remain well protected with a robust OCA and SEAD plan.

2. If they move, operate, or remain with their equipment and/or weapons, they will be targeted and killed.

Tell the enemy that you will target their specific weapons and equipment and then demonstrate that capability.

3. They will receive no rest from the bombing.

Attack the enemy's capacity for rest and regeneration (wherever that may be) with around the clock operations. Do not undervalue non-precision munitions for this task.

4. The worst is yet to come.

Demonstrate the capability and will to continue to constrict the flow of supplies to the enemy's deployed forces. Combine air operations with offensive ground operations.

Also, the commander must ensure that his air, ground and PSYOP operations plans are fully integrated and focused on exploiting the psychological vulnerabilities inherent to the modern battlefield and that the planners are actively seeking feedback from all available sources to continually assess the psychological health of the enemy force. Finally, targeting should focus on effects not destruction and airstrikes should be conducted with an appreciation of how airpower's perceived omnipotence can influence the combat stressors weighing heavily upon the enemy troops. If done effectively, the cumulative effect of these actions may produce an enemy so focused on getting out of the fight that he is willing to abandon his weapons and seek a personal peace instead of performing his combat duties.

NOTES

¹ APN Lambert, The Psychology of Airpower (London: Royal United Services Institute for Defense Studies 1995), 39.

² E J Hunter and H T Prince quoted in Lambert, 39

³ Elmer Dinter, Hero or Coward (London: Frank Cass 1985), 38.

⁴ Ibid., 169.

⁵ David A. Deptula, Firing for Effect: Change in the Nature of Warfare (Arlington, VA: Aerospace Education Foundation 1995), 9.

⁶ Lambert, 23.

⁷ Stephen T. Hosmer, Psychological Effects of U.S. Air Operations in Four Wars 1941-1991 (Santa Monica, CA: Rand 1996) xxxi.

⁸ Ibid.

⁹ Youssef Abdul-Moati, A Diary of an Iraqi Soldier (Kuwait: National Center for Documents of Iraqi Aggression on Kuwait 1992), 16.

¹⁰ William F. Andrews, Airpower Against an Army (Maxwell AFB, AL: Air University Press 1998), 54.

¹¹ Hosmer, 156.

¹² Andrews, 117.

¹³ Hosmer, 161.

¹⁴ Lambert, 54.

¹⁵ Hosmer, 164.

¹⁶ Ibid. The officer estimated perhaps 100 killed and 150 wounded. Without knowledge of how large his unit was, we are left with only his impression that these casualty numbers were light.

¹⁷ Andrews, 117.

¹⁸ Hosmer, 111.

¹⁹ Ibid., 169.

²⁰ Ibid., 185.

²¹ Ibid., 182-183.

²² Dinter, 29.

²³ Ibid., 31.

²⁴ Hosmer, 119.

²⁵ Ibid., 202.

²⁶ Ibid., 201.

²⁷ Rick Atkinson, Crusade: The Untold Story of the Persian Gulf War, (Boston: Houghton Mifflin 1993), 337.

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